

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Figures 2-7. Originally filed Figures 2-7 are cancelled, and the attached Figures 2-7 replace the original Figures 2-7.

Attachment: Replacement Sheets

REMARKS

This application is amended in a manner to place it in condition for allowance at the time of the next Official Action.

Status of the Claims

Claims 1, 2 and 8-11 are amended.

Claim 1 is formally amended to recite "having tuberous roots" so that the product obtained corresponds to the preamble.

Claim 2 is amended to recite the phenotypic characteristics of the various types of plants recited in 9-11.

Claim 8 is amended to include the types of plants recited in claims 9-11, and claims 9-11, accordingly, no longer recite these characteristics.

Claims 1-12 remain in this application.

Objection to the Drawings

Figures 1 and 2 of the response filed April 23, 2009 were objected to for being different than those originally filed.

However, it is respectfully submitted that the Figures of April 23, 2009 were intended to be part of the Rule 132 Declaration (for illustration purposes), not an amendment to the drawings. Note there was no statement made in the reply filed April 23, 2009 instructing the Patent Office to amend the figures.

The originally filed Figures 2-7 were objected to for being too dark or too light. Replacement sheets, which clarify these Figures are included in the Appendix.

Objection to the Specification

The abstract was objected to for not being on its own page. A new abstract is included in the appendix.

The specification was objected to for not including subject headings. The present specification has been amended to include these headings.

Claim Rejections-35 USC §112, 2nd paragraph

Claims 1-12 were rejected under 35 U.S.C. §112, second paragraph, for being indefinite. This rejection is respectfully traversed for the reasons below.

The Official Action rejected claims 1-7 and 12 for being confusing and not in proper sequence. In particular, the Official Action noted that claim 2 recites d1 while step (d) is recited in claim 1, and forcing step i) is recited in claims 4-7.

The amendment to claims 1 and 2 sets out to clarify the steps. However, as to the confusion with respect to step i), applicant respectfully disagrees.

Step i) is specified for the first time in claim 4 as a forcing step that follows step h) of self-fertilizing F2 recombinants plants. Then, claim 5 specifies the features of the

additional cloning step j) that follows step i). Claims 6 and 7 recite specific embodiments of the this cloning step j), which is the subject matter of claim 5 and thus logically refer to the cloning of the F3 plants that have been previously obtained during the performance of the claimed process, namely at the previous forcing step i).

Thus, to the contrary, the reference of the previous forcing step i) in these claims make perfectly clear the claimed process step sequence.

Claims 1 and 4 were rejected for being indefinite for reciting forcing conditions without specifying the content and concentrations of the nutriment solution. However, as disclosed in the specification, the main features of the forcing step d) (claim 1) and forcing step i) (claim 4) consist of the combination of (i) the nutriment solution temperature and (ii) the room temperature.

As specified on page 7, lines 20-24, it is emphasized that the temperature conditions, i.e. the low temperature conditions, used for the forcing step d) results in the young plants with characteristics having satisfactory sanitary quality. This result would have not been obtained with the temperature conditions which are conventionally used for growing chicons of endive species.

Moreover, the specification also discloses that "the

other conditions of the forcing step d), in particular the nutriment solution composition, are classical. These are described, in particular, by Leteinturier et al.. .".

The specification further discloses that the conditions of the forcing step i) are identical to those of the forcing step d) (see page 14, lines 7-12). Thus, as already mentioned above, the sole specific features of the forcing steps d) and i) are exclusively the temperature conditions, whereas the constitution of the nutriment solution is purely conventional and thus well known to one skilled in the art.

The Official Action also rejected the claims for the terms "PPI", "GPI", "TFR" and "SCA". However, these terms are purely arbitrary. For example, they might have been termed classes I, II and III, respectively. In this regards, claim 2 has been clarified by introducing the complete phenotypic definition of each plant class as found initially in claims 9 to 11, respectively.

Therefore, for reasons discussed above, the claims are definite, and withdrawal of the rejection is respectfully requested.

Claim Rejections-35 USC §112, 1st paragraph

Claims 1-12 were rejected under 35 U.S.C. §112, first paragraph, for not complying with the written description

requirement. This rejection is respectfully traversed for the reasons below.

According to the Official Action, the recombinant plants that are defined in each of claims 8-11 would fail to comply with the written description requirement, since the claimed recombinant plants are described by their phenotype only, and not by their genotypic characteristics. Notably, the Official Action cites the court decision *University of California v. Eli Lilly and CO*, 43 USPQ2d 1398 (Federal Circuit, 1997) in support of the position. However, this rejection is respectfully traversed for the reasons that follow.

1) The relevancy of the cited Court decision.

It appears that in the cited Eli Lilly case, the revoked patent functionally claimed functionally human genetic sequences that were not actually isolated, nor their structure determined and, as far as applicant is aware, the specification did not enable the one skilled in the art to actually isolate and characterize the claimed nucleic acid and protein sequences.

The Official Action cites Federal Circuit court as stating that the written description "requires a precise definition, such as by structure, formula [or] chemical name, of the claimed subject matter sufficient to distinguish it from other materials."

In the instant case, however, the recombinant plants

obtained by the claimed process (the subject matter of claims 8-11) are described by specific physical features, namely their phenotypic features, both in the claims and the description. Moreover, figures 2 to 7 actually illustrate the structural features of these recombinant plants.

Notwithstanding the above remarks, it is respectfully submitted that these physical properties, as presently recited in claim 8, meet the written description requirement as mentioned *University of California v. Eli Lilly and CO*, which requires definition by BUREAU DE NANTES structure, formula, chemical name, or physical properties.

2) Claimed physical/phenotypic features.

The claimed physical/phenotypic features of the recombinant plants are actually relevant. For example, the physical feature of the tuberous roots present determines the possibility of further growing the subsequent generations of the claimed plants with the conventional techniques of growing *Cichorium intybus L* plants. Further, the combination of tuberous roots and indented leaves in *Cichorium*-type plants is an unprecedented combination of features for this kind of plants. This combination of features alone allows one to describe the invention's recombinant plants, and, thus, distinguish these plants from the previously known *Cichorium*-type plants.

Indeed, according to the present knowledge of *Cichorium* genetics, the one or more genetic determinants that allow the

expression of the phenotypic characters of tuberous roots and indented leaves are not known. Thus, these represent features that are not reachable by the one skilled in the art.

However, the knowledge of these genetic determinants would have, at most, consisted of a distinct way to actually describe the same recombinant plant feature.

For similar reasons, the more complete description of each class of recombinant plants that are specified in claims 9-11 allow the one skilled in the art to readily determine if a given plant fall under the definition of anyone of the PPI, GPI and TFRISCA classes defined in claims 9-11.

3)Conventional way of defining plant characteristics.

The description of plants by their phenotypic characteristics is presently the quasi-exclusive way of defining a specific plant species when the new characteristics have not been brought by genetic engineering methods.

It is herein reminded that the Plant breeder's right system requires that the applicant provide a complete description of the novel variety for which a protection is sought, and that the Plant breeder's right description requirement exclusively concern phenotypic features of the novel variety.

For example, applicant encloses herewith a copy of the UPOV guidelines regarding 3 kinds of varieties, namely *Cichorium endivia* L., *Cichorium intybus* L. *partim* (witloof, chicory) and *Cichorium intybus* L. *partim* (leaf chicory), which clearly shows

that, to date, novel plants of the *Cichorium* genus are efficiently described by exclusively listing a combination of phenotypic features.

It should be noted that the UPOV guidelines specify several phenotypic features, like the leaf length and width which allows to calculate a ratio between the width and the height of the leaf, like in the claimed recombinant plants. The Examiner's attention is respectfully directed to the three UPOV documents provided in the appendix. See, e.g., notably TG/173/3, page 6, items 8 and 9; TG/118/4, page 9, items 11-12; TG/154/3, pages 5-6, items 4-5.

4) Phenotypic description of the invention.

Because the recombinant plants that have been obtained according to the instant invention are very specific, applicant specified additional phenotypic features for the claimed plants that are not found in the conventional phenotypic features defining *Cichorium*-type plants used for the purpose of Plant breeder's rights grant proceedings.

Nevertheless, it is respectfully submitted that the detailed phenotypic description of both (i) the common features shared by each PPI, GPI, TFR/SCA plant classes and (ii) each plant class defined in claims 9-11, consist of a highly precise definition of the novel *Cichorium*-type recombinant plants that are claimed, which clearly materializes that the inventors were in possession of the invention at the filing date.

5) Further evidence.

In support of the arguments above, a Declaration under 37 CFR 1.132 by sole inventor Alain Lecompte is provided in the appendix.

Therefore, as is apparent from the reasons discussed above, the present claims comply with written description requirement, and withdrawal of the rejection is respectfully requested.

Conclusion

In view of the amendment to the claims, declaration, cited evidence and the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item(s):

- ☒ - a 37 CFR 1.132 Declaration of Alain Lecompte
- ☒ -UPOV guidelines: TG/173/3
- ☒ -UPOV guidelines: TG/118/4
- ☒ -UPOV guidelines: TG/154/3
- ☒ - a new Abstract of the Disclosure
- ☒ - Replacement Sheets for Figures 2-7 of the drawings